Taxonomic Adjustments in North American Apocynaceae

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ABSTRACT

New combinations in North American Apocynaceae, subfam. Asclepiadoideae are presented and justified: ***Polystemma cordifolium*** (A. Gray) McDonnell & Fishbein, ***Pattalias palmeri*** S. Watson var. ***peninsulare*** (S.F. Blake) Fishbein, and ***Pattalias palustre*** (Pursh) Fishbein. Published on-line www.phytologia.org *Phytologia 99(2): 86-88 (May 9, 2017).* ISSN 030319430.

KEY WORDS: Asclepiadoideae, *Funastrum*, *Macbridea*, *Matelea*, milkweed vines, *Pattalias*, *Polystemma*, *Rothrockia*, *Seutera*

Several taxonomic innovations are proposed in preparation for the forthcoming *Flora of North America* treatment of Apocynaceae.

Polystemma Decne.

Polystemma Decne. was submerged in *Matelea* Aubl. by Woodson (1941) in his synopsis of North American Asclepiadaceae. His broad circumscription of *Matelea* is widely regarded as a polyphyletic assemblage and *Polystemma* was resurrected by Stevens (2001). Stevens (2001, 2005, 2009) distinguished *Polystemma* from *Matelea* and other related genera by a combination of glandular trichomes that develop white crystalline inclusions with age and smooth, mottled follicles. His circumscription of *Polystemma* corresponds to a monophyletic group in the molecular phylogenetic analyses of McDonnell and Fishbein (unpubl.). Although two new species have been described recently (Lozada Pérez 2010; McDonnell and Fishbein 2016), most of the species belonging to this clade lack combinations in *Polystemma*, as Stevens' revisionary work is ongoing (pers. comm.). One species in the *Flora of North America* region (sensu FNAEC 1993) clearly belongs to *Polystemma* based on the morphological and phylogenetic evidence cited above. The necessary combination is made here.

Polystemma cordifolium (A. Gray) McDonnell & Fishbein, *comb. nov.*
Basionym: *Rothrockia cordifolia* A. Gray, Proc. Amer. Acad. Arts 20: 295. 1885.
Synonym: *Matelea cordifolia* (A. Gray) Woodson, Ann. Missouri Bot. Gard. 28: 222. 1941.

Pattalias S. Watson

Fishbein and Stevens (2005) resurrected *Seutera* Rchb. from the synonymy of *Cynanchum* L. based on a combination of morphological features (umbelliform inflorescences, basally united corona segments) and molecular phylogenetic evidence (Liede and Täuber 2002). However, *Seutera* was published as a replacement for *Macbridea* Raf. and was superfluous and illegitimate at the time of publication (Reveal and Gandhi 2010). Because *Macbridea* Elliott (Lamiaceae) was conserved against *Macbridea* Raf. (Reveal and Gandhi 2010; Brummitt 2011; Barrie 2011), the latter name is also not available in Apocynaceae. Although a proposal was made to conserve *Seutera* against *Macbridea* Raf. (Reveal and Gandhi 2010), this proposal was rejected (Brummit 2011; Barrie 2011). As noted by Fishbein and Stevens (2005) and Reveal and Gandhi (2010), *Pattalias* S. Watson, a largely unused name, is available and should be taken up as the correct generic name for the species placed in *Seutera* by

Fishbein and Stevens (2005). An alternative placement in *Funastrum* was proposed by Liede and Meve (2002). Fishbein and Stevens (2005) rejected this placement on the basis of discordant corona morphology and unsupported molecular phylogenetic evidence. The following synopsis includes all new combinations that are required.

Pattalias palmeri S. Watson, Proc. Amer. Acad. Arts 24: 60. 1889.
Synonyms: *Cynanchum palmeri* (S. Watson) S.F. Blake, Contr. Gray Herb. 52: 83. 1917, not *Cynanchum palmeri* (S. Watson) Shinners, Field & Lab. 19: 65. 1951.
Seutera palmeri (S. Watson) Fishbein & W.D. Stevens, Novon 15: 533. 2005.
Cynanchum mulegense Wiggins, Proc. Calif. Acad. Sci., ser. 4, 30: 247. 1965.

Pattalias palmeri S. Watson var. ***peninsulare*** (S.F. Blake) Fishbein, *comb. nov.*
Basionym: *Cynanchum peninsulare* S.F. Blake, Contr. Gray Herb. 52: 83. 1917
Synonyms: *Cynanchum palmeri* S. Watson var. *peninsulare* (S.F. Blake) I.M. Johnston, Proc. Calif. Acad. Sci., ser. 4, 12: 1129. 1924.
Funastrum peninsulare (S.F. Blake) Liede & Meve, Nordic J. Bot. 22: 589. 2002 [2003].
Seutera palmeri S. Watson var. *peninsulare* (S.F. Blake) Fishbein & W.D. Stevens, Novon 15: 533. 2005.

Pattalias palustre (Pursh) Fishbein, *comb. nov.*
Basionym: *Ceropegia palustris* Pursh, Fl. Amer. Sept. 1: 184, 1813 [1814].
Synonyms: *Vincetoxicum palustre* (Pursh) A. Gray, Syn Fl. N. Amer. 2: 102. 1878.
Cynanchum palustre (Pursh) A. Heller, Cat. N. Amer. Pl. 6. 1898.
Metastelma palustre (Pursh) Schltr., Symb. Antill. 1: 258. 1899.
Lyonia palustris (Pursh) Small, Fl. Miami 149. 1913.
Cynanchum angustifolium Pers., Syn. Pl. 1: 274. 1805, not *Cynanchum angustifolium* Wight & Arn., Contr. Bot. India 57. 1834 or *Cynanchum angustifolium* (Decne.) Morillo, Ernstia 37: 3. 1986.
Funastrum angustifolium (Pers.) Liede & Meve, Nordic J. Bot. 22: 587. 2002 [2003].
Seutera angustifolia (Pers.) Fishbein & W.D. Stevens, Novon 15: 532. 2005.
Amphistelma salinarum C. Wright, Cat. Pl. Cub. 175. 1866.
Metastelma salinarum (C. Wright) C. Wright, Anales Acad. Ci. Med. Habana 105. 1870.
Cynanchum salinarum (C. Wright) Alain, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 22: 120. 1955.

Although *Cynanchum angustifolium* Pers. is the oldest basionym applicable to this species, the combination in *Pattalias* is precluded by *P. angustifolius* S. Watson [1889], a synonym of *Metastelma mexicanum* (Brandegee) Fishbein & R.A. Levin.

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